

REMARKS

Upon entry of this amendment, claims 1-10 are all the claims pending in the application. Claims 11-20 are canceled by this amendment.

I. Objection to the Claims

A. The Examiner has objected to claims 3-10 and 13-20 by asserting that claims 3-10 are substantial duplicates of claims 13-20. While Applicants disagree with the Examiner's position, and do not believe that such claims are substantial duplicates thereof, in an effort to expedite prosecution, Applicants have canceled claims 11-20 by this amendment.

B. The Examiner has also objected to claims 3-10 and 13-20 as failing to comply with USPTO practice in writing dependent claims as stated in 35 U.S.C. § 112, paragraph six, which indicates that "an element in a claim for a combination may be expressed as a means or step for performing a specified function..."

In particular, as indicated in the Advisory Action, the Examiner asserts that the language in claims 3-10 and 13-20 is being interpreted as "means-plus-function" language, and therefore, the Examiner indicates that the claims must be amended to reflect such terminology. Applicants disagree.

In particular, Applicants note that regardless of how the Examiner is interpreting the language in claims 3-10 and 13-20, the Examiner cannot require that the claims be amended so as to be written in means plus function format. Applicants respectfully submit that the terminology in claims 3-10 is clear and that Applicants have not otherwise indicated that the invention is to be of a scope different from that defined in the claims.

Further, Applicants note that it would be improper to amend the dependent claims to be in means-plus-function format. In particular, taking claim 3 as an example, Applicants note claim 3 recites that “the gain command unit issues the gain command in accordance with a range signal indicating in which one of a plurality of speed ranges divided by one predetermined reference value or more the speed signal falls.”

Applicants presume that the Examiner would like the phrase “gain command unit” in claim 3 to be changed to “gain command means”. However, as claim 1 recites the feature of a “gain command unit”, and claim 3 depends from claim 1, it is unclear to Applicants why the Examiner believes that the “gain command unit” in claim 3 should be written in means plus function format, and in fact, submit that such a change would be improper.

Moreover, as noted above, even if the Examiner is interpreting the language in claims 3-10 as means-plus-function language, there is no requirement that Applicants must amend the claims so as to be in means-plus-function format. If the Examiner disagrees, Applicants request that the Examiner provide Applicants with explicit support, either from the MPEP or caselaw, which indicates otherwise.

In view of the foregoing, Applicants kindly request the Examiner to reconsider and withdraw the objection to claims 3-10. As noted above, claims 13-20 have been canceled by this amendment.

II. Claim Rejections under 35 U.S.C. § 103(a)

A. The Examiner has rejected claims 1 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Katoh (U.S. 6,088,311) in view of Leonowich (U.S. 5,315,270) and Ishibashi et al. (U.S. 6,134,197).

Claim 1, as amended, recites that the loop gain of the clock extracting circuit is raised when the read rate of the information signals increases, and the loop gain of the clock extracting circuit is lowered when the read rate of the information signals decreases. Applicants respectfully submit that the cited prior art fails to disclose, suggest or otherwise render obvious such features.

Regarding Katoh, Applicants note that this reference discloses an optical disc device having a channel PLL 1 which can generate a read clock signal RCK, and a wobble PLL 20 which can generate a write clock signal WCK (see Fig. 1 and col. 7, lines 18-30).

As shown in Fig. 1 of Katoh, a selector 35 is provided which can select and furnish either a channel data D1 or pseudo channel data D2 from the wobble PLL 20 to a phase comparator 5 and a frequency comparator 6 of the channel PLL 1 (see Fig. 1 and col. 7, lines 31-35). The selector 35 selects and furnishes the pseudo channel data to the channel PLL 1 when the optical disk device handles a not-yet-recorded area between two adjacent header areas on an optical disc where no data is recorded (see Abstract).

Thus, while Katoh discloses the use of a selector 35 which can select one of two channel data signals to be supplied to the channel PLL 1, Applicants respectfully submit that Katoh does not disclose or suggest that the loop gain of a clock extracting circuit is raised when the read rate

of the information signals increases, and that the loop gain of a clock extracting circuit is lowered when the read rate of the information signals decreases, as recited in amended claim 1.

Regarding Leonowich, Applicants note that this reference discloses a system which maintains a loop gain constant with changes of the transition density of an input signal. For example, Leonowich sets forth at col. 3, lines 54-60 that:

Since the transition density changes as a function of time, the PLL dynamically adjusts the current pulse amplitudes so that the phase detector gain, and hence the loop gain, compensates for variations in density. Effectively, therefore, the gain and hence the loop dynamics are maintained essentially constant over a relatively wide range of data transition densities.

Thus, as is evident from the above disclosure, and which is further apparent from the description at col. 3, lines 5-9 of Leonowich which sets forth that “the invention makes the loop gain essentially constant even though the transition density may vary”, it is clear that the loop gain in Leonowich is maintained constant with varying data transition densities (also see col. 6, lines 17-19).

Thus, while Leonowich discloses the ability to maintain a loop gain constant with changes in transition density, Applicants respectfully submit that Leonowich does not disclose or suggest that the loop gain of a clock extracting circuit is raised when the read rate of the information signals increases, and the loop gain of a clock extracting circuit is lowered when the read rate of the information signals decreases, as recited in amended claim 1.

Regarding Ishibashi, Applicants note that this reference discloses an optical disk drive apparatus having the ability to detect linear velocity with high precision when a PLL is operated in generation of a synchronization clock for address reproduction (see col. 12, lines 43-47).

Applicants respectfully submit, however, that while Ishibashi discloses the ability to detect linear velocity, Ishibashi does not disclose or suggest that the loop gain of a clock extracting circuit is raised when the read rate of the information signals increases, and that the loop gain of a clock extracting circuit is lowered when the read rate of the information signals decreases, as recited in amended claim 1.

In view of the foregoing, Applicants respectfully submit that the combination of the cited prior art fails to disclose, suggest or otherwise render obvious all of the features recited in amended claim 1. Accordingly, Applicants submit that claim 1 is patentable over the cited prior art, an indication of which is kindly requested. As noted above, claim 11 has been canceled by this amendment.

B. The Examiner has rejected claims 2 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Katoh in view of Leonowich and Ishibashi and further in view of Okada et al. (U.S. 6,175,542).

Applicants note that claim 2 has been amended to recite the same features as discussed above with respect to claim 1. In particular, claim 2 now recites that the loop gain of the clock extracting circuit is raised when the read rate of the information signals increases, and the loop gain of the clock extracting circuit is lowered when the read rate of the information signals decreases.

For at least the same reasons as discussed above, Applicants respectfully submit that the combination of Katoh, Leonowich and Ishibashi fails to teach, suggest or otherwise render obvious the above-noted features recited in amended claim 2. In addition, Applicants

respectfully submit that Okada also fails to disclose the above-noted features recited in amended claim 2. Applicants note that Okada was relied on by the Examiner solely for the teaching of a digital filter 454 and an NCO 462.

In view of the foregoing, Applicants respectfully submit that the combination of the cited prior art fails to teach, suggest or otherwise render obvious all of the features recited in amended claim 2. Accordingly, Applicants submit that claim 2 is patentable over the cited prior art, an indication of which is kindly requested. As noted above, claim 12 has been canceled by this amendment.

III. Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 3-10 and 13-20 are objected to as being dependent upon a rejected base claim, but would be allowable if the objections to these claims were overcome, and the claims were rewritten in independent form including all the limitations of the base claim and any intervening claims. As noted above, claims 13-20 have been canceled by this amendment. Further, for the reasons discussed above, Applicants respectfully request that the objection to claims 3-10 be withdrawn.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Masayoshi NAKAMURA et al.

By: Kenneth W. Fields
Kenneth W. Fields
Registration No. 52,430
Attorney for Applicants

KWF/abm/kjf
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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